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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/805,156	03/14/2001	Takayuki Hasebe	26.1701	1766

21171 7590 11/21/2006

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EXAMINER	
SIMITOSKI, MICHAEL J	

ART UNIT	PAPER NUMBER
2134	

DATE MAILED: 11/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/805,156	HASEBE ET AL.	
	Examiner	Art Unit	
	Michael J. Simitoski	2134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28,43 and 44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *2,11-18,20 and 25-28* is/are allowed.

6)☒ Claim(s) *1,3-8,10,19,21-24,43 and 44* is/are rejected.

7)☒ Claim(s) *9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 March 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/28/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The response of 8/31/2006 was received and considered.

2. The IDS of 6/28/2006 was received and considered to the extent that the abstracts were considered, as only the abstracts were provided in English.

3. Claims 1-28 & 43-44 are pending.

Response to Arguments

4. Applicant's response has included the allowable subject matter found in claims 2 & 11-18 into claims 20 & 25-28. Therefore these claims are allowable. It is noted that because the remaining claims (except objected-to claim 9) are maintained as rejected, the application is not in condition for allowance. However, if the non-allowed claims are canceled, leaving only allowable claims, the application will be passed to issue.

5. Applicant's response (p. 9) argues that Cisco lacks "a date-and-time setting request reception unit accepting a date-and-time setting request from any date-and-time manager before accepting a date-and-time setting request from a predetermined date-and-time manager, and accepting a date-and-time setting request only from the predetermined date-and-time manager after accepting a date-and-time setting request from the predetermined date-and-time manager". However, Cisco discloses configuring a network switch as an NTP client (p. 3), where the switch receives time-and-date setting requests from any date-and-time manager/NTP server (p. 3, ¶1) (Cisco explicitly discloses up to 10 server addresses, p. 3, #2). Further, once the "Authentication Disabled" box is deselected (i.e. authentication is required), the switch updates the time only from the servers that provide the correct authentication (i.e. predetermined date-and-time

manager). The clock unit on the switch sets the date-and-time (pp. 1-3) in accordance with the date-and-time request.

6. Applicant's response (p. 10) argues that "the updates are apparently never only accepted from the NTP server, because at any time the user can go in and manually set the system time". However, the user is not considered a date-and-time manager, but rather the NTP server is. It is the specific NTP server (the authenticated NTP server) from which requests are only accepted once the setting has been changed. Applicant's response (p. 10) concludes that "Because a user can update the system clock (switch) at any time in the disclosure of Cisco, there is no way to control a date-and-time apparatus such that a date-and-time setting request is only received from a predetermined date-and-time manager". However, as previously mentioned, the user is not considered a date-and-time manager. Further, Applicant's claim is not read such that there is absolutely no other means to set the date-and-time setting other than from a predetermined date-and-time manager, as this limitation would not be enabled. This is because there is no way to prove (and hence claim) that the system is perfect, and hence that there is no way to set the date-and-time setting outside of the intended function. Rather, the claim is read in light of the specification and intended features, such that reasonable measure are taken to ensure that once a date-and-time setting request is received from a predetermined date-and-time manager, only requests from that manager are accepted. Similarly, Cisco is read such that while a user could set the time him/herself, the disclosure of Cisco describes the situation where an NTP server is used and further describes the conversion from accepting any setting request to accepting only an authenticated request. Thus, the Cisco disclosure is only relied upon for teaching the NTP server

mode of a switch; the manual setting mode is not relied upon. Therefore, the rejection is maintained.

7. Applicant's response (pp. 11-12) relies on the arguments addressed above and is responded to using similar rationale.

8. Applicant's response (p. 13) argues that claims 43-44 are allowable for the same reasons addressed according to claim 1. However, as described above, this argument is not persuasive.

9. Applicant's response (p. 13) further argues that "Swinehart merely discloses techniques for temporarily transferring control, including exclusive control, of computing devices dedicated to a specialized use to user at the user's request" and therefore "Swinehart does not cure the deficiencies of Cisco ...". However, Swinehart has been used as the primary reference, supplemented by Cisco. Therefore, the rejection is maintained for the reasons set forth in the rejection.

Claim Objections

10. Claims 1 & 3-10 are objected to because of the following informalities:

a. Regarding claim 1, line 8, "clock unit setting" should be replaced with "clock unit".

11. Appropriate correction is required.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

13. Claims 1 & 3 are rejected under 35 U.S.C. 102(a) as being anticipated by "System Time Management" by Cisco Systems, Inc (**Cisco**), April 2000.

Regarding claim 1, Cisco discloses a date-and-time management apparatus/switch comprising a date-and-time setting request reception unit/switch (p. 1, ¶¶2-5) accepting a date-and-time setting request/time from any date-and-time manager/NTP server (p. 3, §Configuring the Switch as an NTP Client, specifically #2) before accepting a request from a predetermined date-and-time manager/authenticated NTP server (p. 3, §Configuring NTP Authentication), and accepting a date-and-time setting request only from the specified date-and-time manager/authenticated NTP server after accepting a date-and-time setting request from the specified date-and-time manager/authenticated NTP server (p. 3, § Configuring NTP Authentication) and a clock unit/clock (p. 1) functioning in response to the accepted date-and-time setting request (p. 1 & p. 3, §Configuring NTP Authentication, ¶1).

Regarding claim 3, Cisco discloses a date-and-time management device/switch (p. 3) for a manager on the date-and-time manager side (p. 1, ¶1-4), wherein said date-and-time management device for the manager comprises a date-and-time setting request unit/switch for issuing to said date-and-time setting request reception unit/switch a copy request/synchronization request (p. 3) for a date-and-time managed by said device/switch as the date-and-time setting request.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. Claims 4-6, 19 & 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Cisco**, as applied to claim 3 above, in further view of Handbook of Applied Cryptography by Menezes et al. (**Menezes**).

Regarding claims 4-6, Cisco discloses a copy data generation unit/switch for generating data for copying of the date and time (updating the time) (p. 3), but lacks using non-reproducible information received from the management device that accepted the request and the date-and-time managed by said management device that issued the date-and-time request. However, Menezes teaches that to prevent replay attacks in protocols, nonces are used, which is a non-repeating value included in the protocol messages (pp. 397-398, §10.3.1). Menezes further teaches that when transporting keys from an authority to a user, digital signatures are used to authenticate the data (p. 507, ¶2 & p. 570, Remark 13.37) and can include non-repeating values such as sequence numbers to prevent replay attacks (p. 570, Remark 13.37). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cisco to generate data for copy of the date-and-time by encrypting the information about the managed date-and-time (date and time) and the non-reproducible information (random/nonce) to generate the data for copy of the date and time (updated, verified time). One of ordinary skill in the art would have been motivated to perform such a modification to verify

that a time has not been modified (data verification) and that the time update has not been replayed, as taught by Menezes (pp. 397-398, §10.3.1, p. 507, ¶2 & p. 570, Remark 13.37).

Regarding claim 19, Cisco discloses a date-and-time management apparatus/switch comprising a date-and-time setting request reception unit/switch (p. 1, ¶¶2-5) accepting a date-and-time setting request/time from any date-and-time manager/NTP server (p. 3, §Configuring the Switch as an NTP Client, specifically #2) before accepting a request from a predetermined date-and-time manager/authenticated NTP server (p. 3, §Configuring NTP Authentication), and accepting a date-and-time setting request only from the specified date-and-time manager/authenticated NTP server after accepting a date-and-time setting request from the specified date-and-time manager/authenticated NTP server (p. 3, § Configuring NTP Authentication) and a clock unit/clock (p. 1) functioning in response to the accepted date-and-time setting request (p. 1 & p. 3, §Configuring NTP Authentication, ¶1). Cisco lacks a signature generation unit generating a signature for input data to be signed according to information about a date-and-time indicated by said clock unit. However, Menezes teaches that a trusted time stamping service provides a user with a dated receipt by appending a timestamp to a document and signing the composite document (p. 581, §13.8.1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the network time protocol described by Cisco in a trusted time stamping service. One of ordinary skill in the art would have been motivated to perform such a modification to provide a user with a dated receipt, as taught by Menezes (p. 581, §13.8.1).

Regarding claim 21, Cisco, as modified above, lacks explicitly a signature stop unit. However, the examiner takes Official Notice that stopping a calculation when a required input is

unavailable is old and well established in the art of data processing as a method of avoiding invalid results. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cisco to include a signature stop unit to stop the signature generation unit when an operation stop of said clock unit is detected. One of ordinary skill in the art would have been motivated to perform such a modification to avoid invalid time stamping results, as a time will not be inputted. This advantage is well known to those skilled in the art.

Regarding claim 22, Cisco, as modified above, discloses one ore more functions/switching packets (p. 1).

16. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Cisco**, as applied to claim 3 above. Cisco is silent regarding the delivery of the date-and-time management device for the manager. However, the Examiner takes Official Notice that initializing a product such as a date-and-time management device upon delivery is old and well established in the art of communication equipment distribution as a method of activating a product. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cisco to provide a deliverer with a date and time setting device for setting the initial date and time of the date-and-time management device for each manager/NTP server upon delivery. One of ordinary skill in the art would have been motivated to perform such a modification to activate the device and enable use. This advantage is well known to those skilled in the art.

17. Claims 8 & 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Cisco**, as applied to claim 1 above, in further view of U.S. Patent 6,157,957 to **Berthaud**.

Regarding claim 8, Cisco, as described above, lacks a nonvolatile storage memory storing correction information for improving precision of said clock unit. However, Berthaud teaches that to guarantee a pre-specified precision, correction information/conversion function information is calculated (col. 9, lines 19-29) and stored in non-volatile memory (col. 7, lines 1-5). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cisco to include a nonvolatile storage unit storing correction information. One of ordinary skill in the art would have been motivated to perform such a modification to guarantee precision, as taught by Berthaud (col. 7, lines 1-5 & col. 9, lines 19-29)

Regarding claim 10, Cisco is silent regarding a secondary battery. However, the examiner takes Official Notice that including a secondary battery, as a power source to a clock is old and well established in the art of electronic, clocked devices as a method of retaining power to the clock if the power to the device is removed. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cisco to include a secondary battery as a power source of said clock unit. One of ordinary skill in the art would have been motivated to perform such a modification to retain clock functionality when power is removed. This advantage is well known to those skilled in the art.

18. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Cisco** & **Menezes**, as applied to claim 19 above, in further view of U.S. Patent 5,444,780 to Hartman, Jr.

(**Hartman**). Cisco, as modified above, lacks storing information about a date-and-time setter who has issued a date-and-time setting request and generating a signature according to the information about the date-and-time setter in addition to the date-and-time information. However, Hartman teaches that in some schemes for sending an updated time from a device to a client, the device encrypts an authenticated code using a secret key, a time value and an authenticated device ID (col. 2, lines 30-45). This is done to establish trust between the device and the client (col. 1, line 66 – col. 2, line 3). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cisco to store date-and-time setter information and generate a signature according to information about the date-and-time setter. One of ordinary skill in the art would have been motivated to perform such a modification to establish trust between the date-and-time setter and the management device, as taught by Hartman (col. 1, line 66 – col. 2, line 3 & col. 2, lines 30-45).

19. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Cisco & Menezes**, as applied to claim 19 above, in further view of U.S. Patent 6,199,169 to **Voth**. Cisco discloses authenticating the NTP messages (p. 3), but lacks storing a number of setting requests and generating the signature according to information about the frequency information in addition to the date-and-time information. However, Voth teaches that to update distributed time devices with variable transmission delay (col. 2, lines 27-44), it is useful to send the adjustment time/date-and-time info and time changes/frequency information (col. 5, lines 6-17). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Cisco to store a number of setting requests/time changes and to include this

information in the signature. One of ordinary skill in the art would have been motivated to perform such a modification to update distributed time devices with variable transmission delay with authenticated time correction information, as taught by Voth (col. 2, lines 27-44 & col. 5, lines 6-17).

20. Claims 43-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,717,955 to **Swinehart** in view of **Cisco**. Swinehart discloses management devices/UserAgents, each including a setting request (col. 11, lines 25-35), and user devices/DeviceAgents, each including a reception unit accepting an initial setting request (col. 11, lines 56-60) from any management device/UserAgent before accepting a prioritized setting request from a specified management device/UserAgent claiming ownership (owner has priority), and accepting subsequent settings requests only from the specified management device/UserAgent claiming ownership after accepting the prioritized setting request from the specified management device/UserAgent claiming ownership (col. 11, lines 44-46). Swinehart lacks the request being a setting request for date and time and lacks a clock unit setting the date and the time in response to each setting request accepted by said reception unit. However, Cisco teaches a reception unit/switch receiving a setting request for date and time (p. 3, ¶1) and a clock unit/switch setting the date and the time in response to each setting request accepted by said reception unit/switch (p. 3, ¶1). This is beneficial because a network switch can be temporally synchronized regularly (p. 3, ¶1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Swinehart's ownership control techniques to allow the UserAgent to take control of a DeviceAgent's time setting function and

to include a clock unit setting in the general purpose computing device setting the date and time. One of ordinary skill in the art would have been motivated to perform such a modification to update the time on the client, as taught by Cisco (p. 3, ¶1).

Allowable Subject Matter

21. Claims 2, 11-18, 20 & 25-28 are allowed.

22. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

23. The following is a statement of reasons for the indication of allowable subject matter:

b. Regarding claims 2, 11-18, 20 & 25-28, the prior art relied upon fails to teach or suggest accepting a date-and-time setting request only from a date-and-time manager at a higher hierarchical level than the date-and-time manager whose request has been accepted before in combination with the other elements of the claims.

c. Regarding claim 9, the prior art relied upon fails to teach or suggest a correction information resetting unit resetting the correction information when said clock unit becomes short of power, power is applied to said unit and said date-and-time setting request reception unit accepts a date-and-time request.

Conclusion

24. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Simitoski whose telephone number is (571) 272-3841. The examiner can normally be reached on Monday - Thursday, 6:45 a.m. - 4:15 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on (571) 272-3799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJS

November 14, 2006

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